

**Listing and Amendments to the Claims**

This listing of claims will replace the claims that were published in the PCT Application annexed to the International Preliminary Report on Patentability:

1. (Currently amended) An apparatus ~~(100)~~, comprising modulating means ~~(20)~~ for performing multi-carrier modulations ~~characterized in that wherein~~ it further comprises:

processing means ~~(10)~~ for retrieving a digital value corresponding to type of modulation associated with a transmission signal;

converting means ~~(60)~~ converting said digital value to an analog signal,

amplifying means ~~(50)~~ for amplifying the transmission signal, controlled by the analog signal decreasing bias current when decreasing the efficiency per bit of the digital modulation and vice versa.

2. (Currently amended) The apparatus ~~(100)~~ of claim 1, further comprising signal transmitting means ~~(70)~~ for wirelessly transmitting said transmission signal.

3. (Currently amended) The apparatus ~~(100)~~ of claim 1, wherein said type of modulation includes one of:

bi-phase shift keyed ~~(BPSK)~~ modulation;

quadrature phase shift keyed ~~(QPSK)~~ modulation; and

quadrature amplitude modulation ~~(QAM)~~.

4. (Currently amended) The apparatus ~~(100)~~ of claim 1, wherein said transmitter apparatus ~~(100)~~ is part of a mobile transceiver having a battery power supply.

5. (Currently amended) A method (400) for controlling a transmitter apparatus (100), comprising:

identifying and retrieving a digital value corresponding to a type of digital modulation for a transmission signal (410,420);

converting said digital value to an analog signal (430); and

controlling power amplification of said transmission signal using said analog signal in decreasing a bias current of the amplifier when decreasing the efficiency per bit of the digital modulation and vice versa (440).

6. (Currently amended) The method (400) of claim 5 further comprised of wirelessly transmitting said transmission signal (450).

7. (Currently amended) The method (400) of claim 5, ~~characterized in that~~ wherein said digital value is based on the crest factor.

8. (Currently amended) The method according to claim 5 ~~characterized in that~~ wherein bias current is decreased when digital modulation is changed from 64 QAM  $\frac{3}{4}$  to BPSK  $\frac{1}{2}$ .

9. (Currently amended) The method according to claim 7 ~~characterized in that~~ wherein it is in compliance with one of the standards belonging to the set comprising:

- Hiperlan type 2;
- IEEE 802.11a;
- DVB-T
- 802.16a

10. (Currently amended) The method (400) of claim 5, wherein said type of digital modulation includes one of:

bi-phase shift keyed (~~BPSK~~) modulation;

quadrature phase shift keyed (~~QPSK~~) modulation; and

quadrature amplitude modulation (~~QAM~~).

11. (Currently amended) An apparatus ~~(100)~~, comprising:  
a processor ~~(10)~~ for retrieving a digital value corresponding to type of modulation associated with a transmission signal;  
a digital analog converter ~~(60)~~ converting said digital value to an analog signal;  
a power amplifier ~~(50)~~—for amplifying the transmission signal, controlled by the analog signal decreasing bias current when decreasing the efficiency per bit of the digital modulation and vice versa.

12. (Currently amended) The apparatus ~~(100)~~—of claim 11, further comprising a signal transmitting element ~~(70)~~—operative to wirelessly transmit said transmission signal.

13. (Currently amended) The apparatus ~~(100)~~—of claim 11, wherein said type of digital modulation includes one of:

bi-phase shift keyed ~~(BPSK)~~ modulation;  
quadrature phase shift keyed ~~(QPSK)~~ modulation; and  
quadrature amplitude modulation ~~(QAM)~~.

14. (Currently amended) The apparatus ~~(100)~~—of claim 11, further comprising a modulator ~~(20)~~—operative to perform a plurality of different types of digital modulation.

15. (Currently amended) The apparatus ~~(100)~~—of claim 11, wherein said apparatus ~~(100)~~—is embodied as a mobile transceiver having a battery power supply.